

Distributed Data and Document Capture: Cost and Architecture Issues

**WHITE
PAPER**



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Table of Contents

<u>Section</u>	<u>Page</u>
Centralized vs. Distributed Capture	2
Distributed Capture Strategies: Three Alternatives	2
Distributed Capture Issues to Consider	4
Calculating the ROI of Distributed Capture	6
Summary: What to Look for in a Distributed Capture Solution	7
Table 1. Alternatives for Distributed Capture	3
Figure 1. Ascent Capture Internet Server Topology	3

Centralized vs. Distributed Capture

Most production capture installations are designed for either centralized or distributed operation. The choice is application dependent, and most applications lend themselves naturally to one approach or the other.

For example, a warranty registration application is usually configured for centralized scanning and processing. Since all of the warranty cards come into one place, it makes sense to centralize the scanning in the mailroom where the registration cards are received.

Mortgage loan processing, on the other hand, is an example of an application that is better suited to distributed processing. Loan documents are typically created at branch banks and it makes sense to scan the documents locally at each branch and then send only the scanned images to the bank's central workflow process for approval and forwarding.

As a rule of thumb, it's best to perform scanning at the place where the paper originates. If at any point in the work process the paper is gathered into one place, then centralized scanning is more efficient. However, if the documents originate in the field and there's no reason for the physical paper to be shipped to a central site, then distributed scanning is usually faster and more efficient.

Three Alternatives

There are three basic alternatives for the capture of paper-based documents and data from remote locations:

1. The historically common method of handling remote sites has been to **ship paper documents to a central site for scanning**. However, daily shipping costs make this expensive. Loss of critical business documents between sender and recipient is another serious shortcoming. One large financial services firm reported that they were losing 25 percent of new account applications shipped from branch offices to the headquarters for scanning and processing. They suspect that much of the loss occurred in their mailroom — or between the mailroom and the intended recipients — rather than in transit. When they switched to a system where new account applications were scanned where they were filled out, document losses sank to near zero. Even when shipped documents arrive at their intended destinations, it's a slow process. Companies have found **it typically takes three to six days to make a document available online when shipped for scanning**. Of course, shipping requires physical handling by many people, which compromises the security of sensitive customer or company information.

The Cost of Distributed Capture

Until recently, distributed capture was impractical for most applications. Production scanners cost a minimum of \$5,000, capture software was thousands more and high-speed, wide-area data connections were prohibitively expensive.

All this has changed. Low-volume production scanners are available for less than \$1,500, capture software for less than \$1,000, while network bandwidth prices have plummeted.

The results have been dramatic. Today, a remote production scanning site can be set up quickly and easily for less than \$3,000.

This year, an even lower cost option emerged which can put production capture on every desktop. For as little as \$15,000 for an unlimited number of desktops, it teams existing networked copiers for scanning with browser-based capture software. The process can launch the same sophisticated production workflow as other options but it's designed to capture just a few documents per desktop per day — a relevant option for document creators and reviewers who need to launch their own workflows.

2. A related method is to scan to CD at the remote sites. This eliminates paper shipping but it's just as slow and still subject to loss and weak security.

Table 1. Alternatives for Distributed Capture

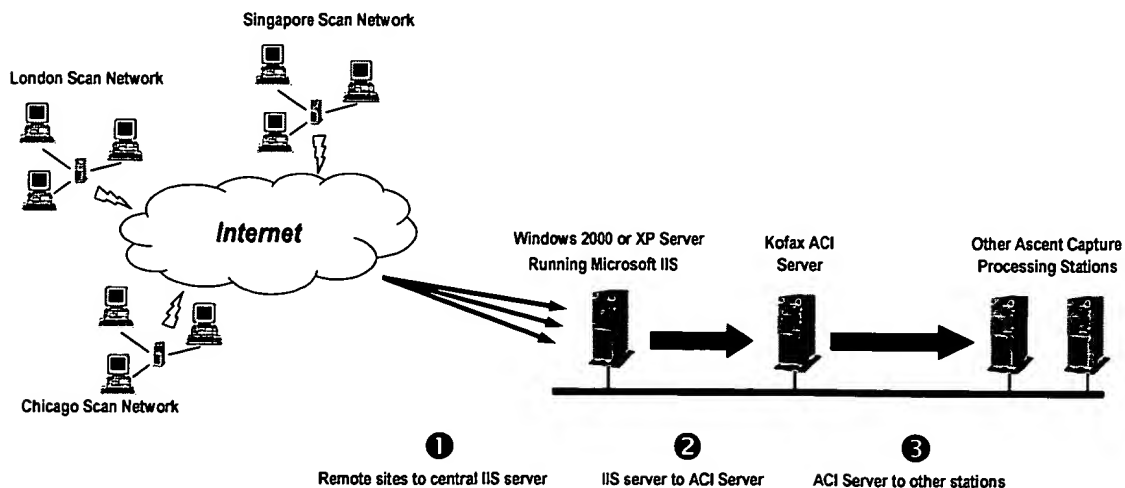
	Ship Docs	Scan to CD	Fax	Ascent® Capture Internet Server	Ascent® Ricochet
Low cost			✓	✓	✓
Fast online access			✓	✓	✓
High quality	✓	✓		✓	✓
Secure				✓	✓
High Volume	✓	✓		✓	
					✓

3. For low volume sites, faxing documents to a central location and then importing them into a capture application is possible. However, it produces low-quality images that are hard to read onscreen, which compromises the primary purpose for scanning: fast, dependable online access to documents. The poor quality also eliminates the option of OCR, hand printing recognition (ICR), or other forms of automated indexing and data capture tools, limiting document indexing or forms processing to slow, expensive, error-prone manual processes. Long-distance telephone charges may also be significant.

Kofax Distributed Capture Products

The Ascent® family of distributed capture products — Ascent Capture Internet Server™, Ascent Ricochet™ and Ascent Web Validation Server® — has been designed with these issues in mind. Ascent enables documents and data to be captured when and where they enter the organization, indexed and verified locally or anywhere in the world and then released to one or more Enterprise Document Management or Enterprise Content Management systems for online access and workflow. This distributed process eliminates the cost of shipping documents, reduces the time required to capture and make a document available online from days to minutes and bolsters document security throughout the process.

Figure 1. Ascent Capture Internet Server Architecture



Distributed Capture Issues

Scalability

The chosen system should permit unlimited incremental growth at any remote site and in overall solution capacity. The largest distributed applications in production have up to one thousand remote sites and capture over 1 million pages per day. Prior investment should be preserved and installation of additional scan and index stations should be straightforward. Nor should scaling the system complicate administration. Ideally, the central administrator should be able to view and control each multi-station site as a single network node, regardless of the number of workstations in the node.

Accommodating Departmental Requirements in an Enterprise Application (Or Multi-Customer Service Bureaus)

However, as a distributed capture application grows to enterprise proportions, more sophisticated requirements than scalability arise. The system may – and probably will – need to accommodate different business processes in each department. On the other hand, the administrator probably wants to limit user access to only processes developed for their own department. This situation calls for a method of filtering the types of documents and workflows available to any individual and/or department. This filtering permits the administrator to limit end user access to batches for which they have permission. This eliminates confusion and errors among end users and makes distributed capture a viable option on an enterprise scale or multi-customer service bureaus.

Efficient Central Administration

A distributed capture application shouldn't create new expenses in an effort to reduce old ones. For example, if the solution introduces deployment, training and administration costs which offset reduced document shipping and speedier document processing, perhaps it isn't the best match for the organization.

Whatever solution is implemented should allow the administrator at the central site to keep tight control of access and configuration settings. When configuration changes are made centrally, remote sites should automatically be updated, ensuring that they are always synchronized with the central site. This also prevents configuration errors by workers at the remote sites who do not have the expertise (or desire) to manage a document capture system.

Flexible Workflow

The central administrator should also be able to control how much of the capture workflow occurs locally and how much elsewhere on the network. In some cases, it may make sense for the local subject experts to index and validate documents while in others the origination site may scan, the central site may handle an automated indexing process and validation by live operators may occur at a low-cost offshore location. A browser-based validation module facilitates this home worker or offshore validation scenario by eliminating the need for purchase and installation of a full capture client for each validator. The key is flexibility to accommodate any organization's chosen workflow.

Extending the Capture Architecture to Every Desktop

As mentioned above, some business processes work most efficiently when the document creators and contributors — the knowledge workers — scan and index their own work. For example, loan officers could initiate their own approval workflow faster by capturing documents they and/or their customer created than by sending the approval package to a scanning department — even if the scanning department is onsite. Instead, they initiate the workflow right from their desktop.

When to Choose a Production Solution

This is only practical for knowledge workers when they must capture no more than a few document packages (e.g. loan packets) per day and if the capture process uses tools that are already familiar to the knowledge worker. This eliminates the use of traditional production document scanners and complex, large-batch-oriented capture software. Both require specialized training. They are also too expensive for placement on every desktop — even when recent price reductions are factored in. On the other hand, knowledge workers already know how to operate office copiers — most of which are now networked and possess scanning capabilities. Teaming these with simple Web browser-based desktop software creates a knowledge worker capture process that can be completed in a few minutes and that requires little or no training.

However, when a substantial volume of documents must be captured at each location and the business process gains no clear advantage from knowledge worker indexing, a production capture site using specialized tools and personnel works best.

Calculating the ROI of Distributed Capture

The return on investment of distributed capture solution is extremely quick compared to shipping physical documents from remote sites. Calculating the ROI of a hypothetical installation with 50 remote sites is straightforward.

First, the cost of shipping documents:

1. A single overnight package within the U.S. costs about \$15 for a package size of 100-200 pages.
2. At 260 business days per year, the annual cost of shipping documents is \$3,900.
3. The shipping cost for all 50 sites adds up to \$195,000. (And if the paper documents need to be sent back to the originating site when scanning is finished, the cost doubles.)
4. A single high-speed scanner at the central site costs about \$25,000 and the operator to run it costs about \$20,000 per year.
5. Total cost for the paper solution: \$240,000 in the first year and \$215,000 in the second and subsequent years.

Now, let's calculate the cost of distributed capture:

1. A low-volume scanner and a single license of Ascent Capture costs about \$3,000.
2. The total cost of the central server (hardware and software) is around \$20,000 and the central network connection is about \$12,000 per year.
3. For 50 sites, the total first year cost is \$194,000. The second year cost is no more than the cost of the Internet connections, about \$24,000 for both central and remote connections.

The total ROI is dramatic: the Internet solution saves \$46,000 in the first year and *over \$190,000 in the second and subsequent years*. And there are other benefits too, including faster processing times, better security, and less chance of losing original documents.

Summary: What to Look For in a Distributed Capture Solution

- **Scalability:** At each remote site and overall system capacity (Ascent Capture Internet Server).
- **Job Filtering:** Accommodates multiple departmental requirements within a single solution or multiple customers for service bureaus (Ascent Capture Internet Server).
- **Central Administration:** Administrator can set up and update configuration of all remote clients (Ascent Capture Internet Server).
- **Flexible Workflow:** Administrator controls how much of the capture workflow occurs locally and how much elsewhere on the network.
- **Low-cost, 24x7 Validation Options:** Facilitates off-shore operations (Ascent Capture Web Validation Server).
- **Security:** Administrator controls user access down to document type; secure, 128-bit data stream encryption. (Ascent Capture Internet Server)
- **Extensible to Every Enterprise Desktop:** Enables Content experts and creators to scan, index and launch workflow for their own projects. Should use familiar office technology, e.g. copiers for scanning; Web browser for indexing and assembly. (Ascent Ricochet)



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